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I PEARLS.

BY A. H. JAPP.

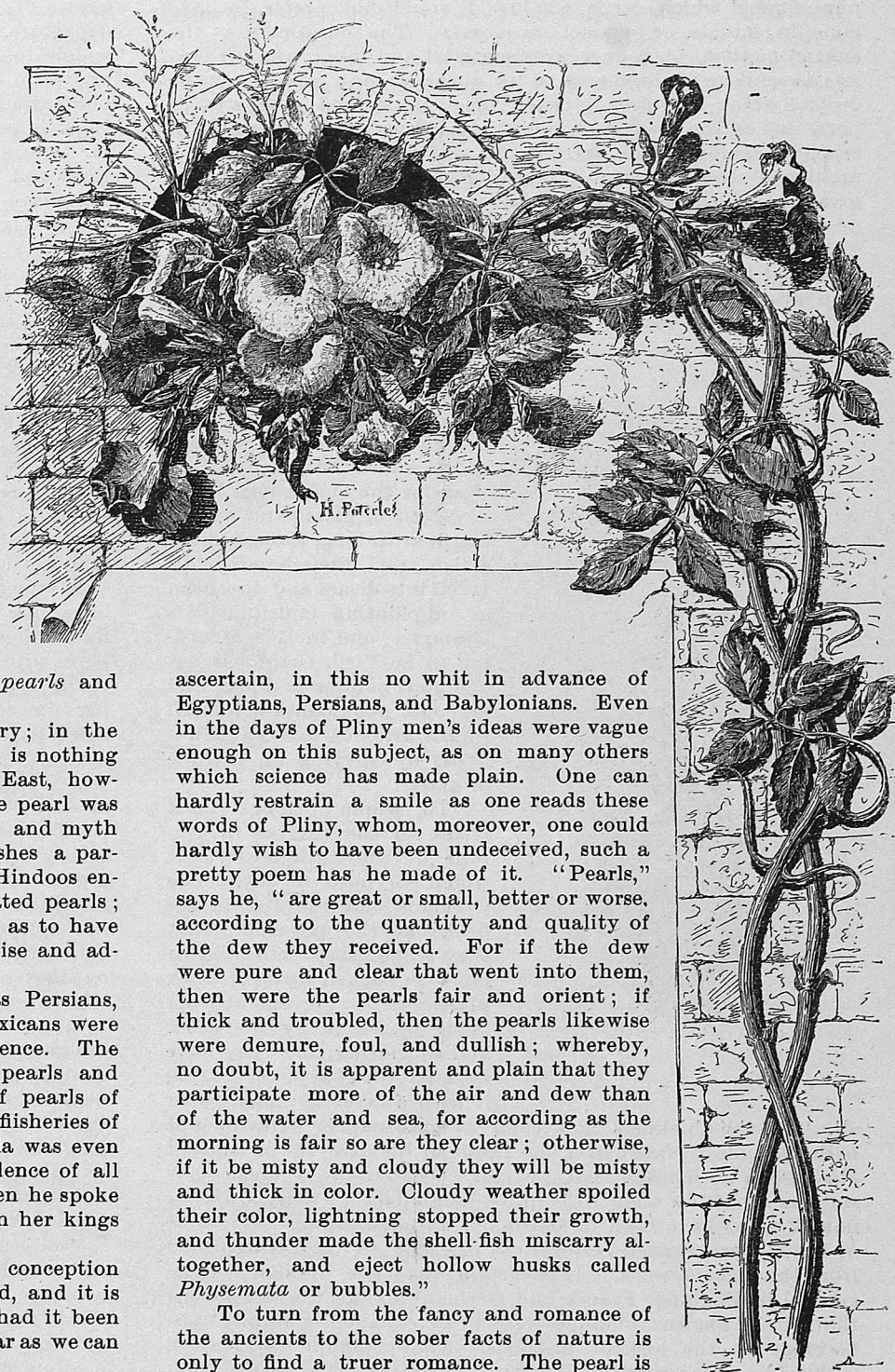


IN one of the finest passages in the "Paradise Lost," Milton painted the throne on which Satan sat, "by merit raised to bad eminence," as outshining the "wealth of Ormus and of Ind," and described the gorgeous East as with richest hand showering on her kings "barbaric pearl and gold." What might seem at the first glance somewhat out of keeping, on a more close examination only attests the exactitude of Milton's knowledge. For it might be asked why pearls are here alone associated with gold? Are there not rubies, and emeralds, opals and diamonds, and sapphires, and the topaz, the beryl and the chalcedony, and the turquoise, and the onyx, and the jasper, and the carbuncle? These are all more gorgeous than the pearl; and if the marks of barbaric taste are, as is usually assumed, flash of color and variety and radiance, then surely is the pearl the very last of gems to be so chosen out and celebrated. Barbaric pearls and gold!

At first sight the words seem to be contradictory; in the subdued color and modest purity of the pearl there is nothing of "barbaric gorgeousness." In most regions of the East, however, and particular in Persia, in ancient times the pearl was ranked the first of all gems; and no end of legend and myth was associated with it. Even in India, which furnishes a partial exception, as putting first the diamond, the Hindoos endowed Vishnu with the special honor of having created pearls; and all their gods are so richly decorated with pearls as to have awakened in the minds of travelers no little surprise and admiration.

Egyptians, Babylonians, and Assyrians, as well as Persians, held them in the highest esteem, and the ancient Mexicans were in no whit behind in their appreciation and reverence. The palace of Montezuma, we read, was studded with pearls and emeralds, and the Aztec kings possessed specimens of pearls of the utmost value, got, as is believed, from the pearl fisheries of Panama. In the barbaric East, therefore (for India was even in those days hardly barbaric), the pearl took precedence of all other precious stones; and Milton was quite right when he spoke of the gorgeous East, with richest hand showering on her kings "barbaric pearl and gold."

The ancients do not seem to have had any clear conception of the natural process by which pearls are produced, and it is possible enough they would have rejected it even had it been made known to them. Greeks and Romans were, so far as we can



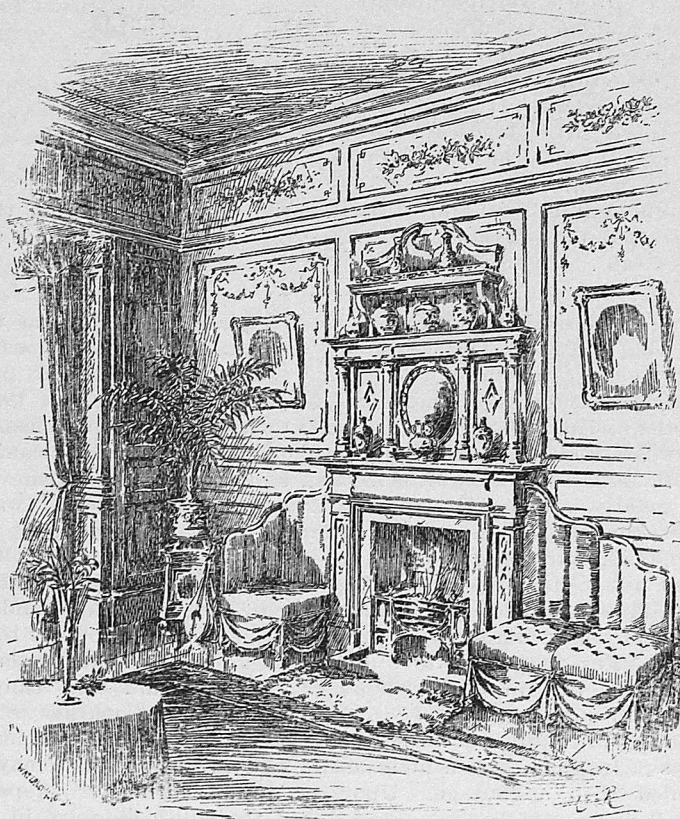
ascertain, in this no whit in advance of Egyptians, Persians, and Babylonians. Even in the days of Pliny men's ideas were vague enough on this subject, as on many others which science has made plain. One can hardly restrain a smile as one reads these words of Pliny, whom, moreover, one could hardly wish to have been undeceived, such a pretty poem has he made of it. "Pearls," says he, "are great or small, better or worse, according to the quantity and quality of the dew they received. For if the dew were pure and clear that went into them, then were the pearls fair and orient; if thick and troubled, then the pearls likewise were demure, foul, and dullish; whereby, no doubt, it is apparent and plain that they participate more of the air and dew than of the water and sea, for according as the morning is fair so are they clear; otherwise, if it be misty and cloudy they will be misty and thick in color. Cloudy weather spoiled their color, lightning stopped their growth, and thunder made the shell-fish miscarry altogether, and eject hollow husks called *Physemata* or bubbles."

To turn from the fancy and romance of the ancients to the sober facts of nature is only to find a truer romance. The pearl is simply a secretion of the common substance carbonate of lime, which is drawn in by the oyster from the water, and employed, mixed with some fluid proper to itself, and along with some extremely thin, almost transparent membrane, in forming the lining of its shell. What is called the mantle of the bivalve is the medium of this secretion. The peculiar nacreous lustre, the soft, shimmering, subdued gleam, is caused by these being laid on alternately in exceedingly thin layers in slow succession; these layers not being absolutely smooth, but having a gentle, almost unnoticeable series of waves or undulations, which are easily detected by scientific instruments, and are invariably present. This is so certain, says a good authority, Mr. Hugh Owen, that "a similar nacreous lustre has been produced on buttons by engraving a steel die with a diamond point in a regular series of undulating lines, and then striking the button as a coin would be struck."

The gem is due either to some wound, which throws off osseous particles, or to some irritating substance, such as a grain of sand finding its way within the shell, against which the oyster fortifies itself by wrapping it round in layer after layer of the same substance as that with which it lines its shell. In the center of every pearl, it is said by scientific men, there will be found in cutting it some such particle as this.

The creature thus translates the cause of its pain or discomfort into a beautiful object, which has given rise to many fine thoughts and images; and none, perhaps, is finer than that of Jean Paul Richter, the great German romance writer, when he says: "Afflictions and disappointments to the true character are only means to its beautifying and perfecting, as the oyster, when it is injured, closes the wound with a pearl."

The knowledge of this fact has led to no end of ingenuity in introducing particles of various kinds within the shell of the bivalve. The Chinese, perhaps, have outstripped all others in this clever device. They introduce minute images of their gods



A CONVERTIBLE COSY CORNER.

and grotesque figures of animals into the open shell of the Chinese mussel, which, after a certain time, are found coated over with the secretion we call mother-of-pearl. They are then withdrawn, and find ready sale, some of them being of considerable value. But though much has been made clear regarding the circumstances of production, there are points still unsettled. The bivalves abound; but they do not equally produce pearls in all localities. The most probable explanation is, that the chemical constituents of the water have much to do with it, and, of course, they vary indefinitely—not only in different waters, but in the same waters at different times.

There are several species of bivalves which produce pearls. From that named *Unio margaritiferus* we derive our supply in Britain; while the pearl mussel—*Meleagrina margaritifera*—is the source of the Oriental supply. Those derived from others are of little or no value, and vary in color from pinky-purple to rose color, some being almost black. The British pearl producing bivalve is found in some of the mountain streams of England and Wales, and more abundantly in some of the mountain streams of Scotland; but, seeing that out of every hundred bivalves opened there may be found only one pearl, and even that of little value, it may be guessed that pearl fishing in our country can hardly be a very profitable calling; though it must be said that, owing to a passion for rose-colored pearls which set in among the ladies of Paris a few years ago, some good has been done to the Scotch pearl fisheries; for pearls of a rose-color are more frequently found there than elsewhere.

The presence of a foot and mantle is one of the marked characteristics of pearl-producing Mollusca. The first is familiar to us all in the common garden snail, and to those who have seen and opened the fresh water mussel (*Anodon cygnea*) the covering of the flesh called the mantle is equally well known.

The function of the foot in the acephalous mollusc is not that of locomotion, but rather to enable the animal to retain a fixed position upon the rocks. This it effects by projecting and spinning long silky threads with the foot, and attaching them so firmly that the wind and waves have no power over them.

"The threads," says Dr. Johnstone, "are of perfect equality throughout, and are well cleaned by washing in soap and water, and then dried by being rubbed with the hands. It is then mixed with about one-third real silk, and is spun on the distaff and knit into gloves, caps, stockings, vests, etc., forming a stuff of a beautiful brownish color."

This strong cord the animal has the power to discard at will and can refix itself without difficulty. This fact, which is well authenticated concerning the *Pinnada*, has shown some light upon the occasional falling off of the pearl fisheries. Some say that the genus *Margaritiferus*, or pearl-oyster, cannot move, but

it has been demonstrated, not only that it possesses locomotive powers, but that these powers are absolutely essential to its digestive economy; for water too salt or too fresh is fatal to the delicate system of the species, and its power of shifting from place to place is essential to its preservation—not to speak of its health and reproduction.

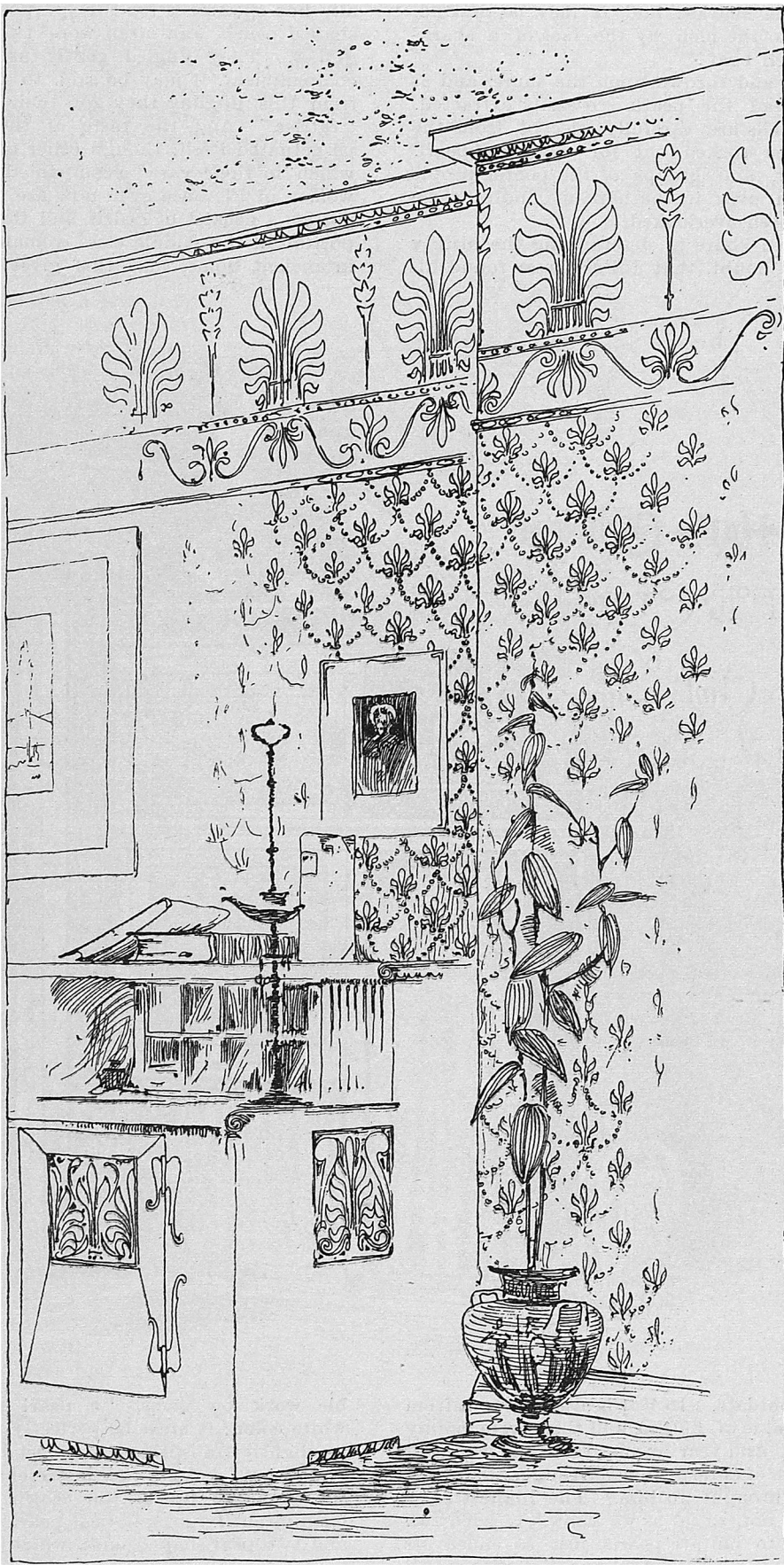
It is only necessary to add that when withdrawn into the shell the foot lies between the folds of the mantle and appears a hard firm pad of flesh. In the *Unionida* family the intestine

is so involved with this mass that there is much difficulty in tracing it. The common oyster is the only specimen of Mollusca that is dissected daily and without disgust; but it is of no use for illustration here, being a true oyster, and has really no connection with the Pecten and Mussel, which is proved by the absence of foot and by the open mantle.

This latter, as we have seen, is the important point in any consideration concerning pearl-growth. The body is enveloped by this elastic fleshy membrane, which is furnished by a skin covered with moving hairs or *cilia*, and is also provided with tentacles. A close examination of the lip of a mussel-shell will explain the manner of its growth, as it is clear that the function of the mantle is to secrete calcareous matter for the hard protective covering, as has already been pointed out. The inner surface of all shells presents the glistening appearance with which we are familiar as the mother-of-pearl. At its margin the mantle is attached to the shell, and secretes this prismatic layer in the manner already indicated; and, as may be expected, the shell is thickest where the growth is most rapid. The glistening brightness is caused by the refraction of the rays of light from the apparently smooth surface, but which, as we have seen, is really both rough and uneven, the delicate plates or lamellæ overlapping each other. Sometimes, in a dry specimen, the structureless membrane can be separated from the true shell, a fact of significant importance to those who maintain shell-growth to be from within outwards. The power of the *Unionida* and *Pectenida* to ensure a soft lining to their home is a key to the formation of the pearl.

Many and varied are the methods which have been adopted for the securing of these precious gems. One of the earliest Arab geographers in the

ninth century describes the habits of the pearl-divers with which he was acquainted. They filled their ears with cotton and oil and compressed their nostrils with tortoise-shell before they dived; this practice, we believe, continues among the pearl-divers of the Persian Gulf even to the present day. Sir J. Emerson Tennant, in his interesting description of the pearl-fisheries of Ceylon, gives some very instructive details. The diver inserts his foot in a sinking stone and inhales a full breath. He presses his nostrils with his left hand, raises his body as high as he can above the water to gain impetus in the descent, and



THE GREEK ANTHEMION—MURAL DECORATION, BY M. H. BIRGE & SONS.

THE DECORATOR AND FURNISHER.

the stone being at that moment liberated, he sinks rapidly to the bottom. As soon as this is reached, the stone is drawn up; and the diver, having thrown himself on his face, with all alacrity fills his basket. At a given signal this is drawn up by the cord which is attached to it, and held above by the men in the boat; and the diver assists his ascent by springing on the rope as the basket rises.

The divers remain about fifty-five seconds under water; and accidents are rare. The noise and constant excitement of the water, during the fishing season, is found to be quite sufficient to protect the men from the sharks; and it may be that additional confidence is given to the men by the fact of a shark-charmer being present in each boat!

The shells are taken out and thrown upon the shore, and as soon as the animals are dead the pearls are easily extracted. The thickest and finest shells are carefully selected from the mass, and are destined to be worked out for mother-of-pearl. The more worthless are left, and groups of the poorer people may be seen turning them over in the hope of finding some stray pearl that may have been overlooked.

Pearls have had their own share in determining the history of the world. There is no doubt that Julius Cæsar found his main inducement to visit Britain in the reports of great pearls to be found there. He is mentioned to have been weighing British pearls in his hand, and comparing them with others from the East, a short time before his expedition to our islands was undertaken. We know that he shared to the full the Roman love of pearls. On his return to Rome from these islands the breastplate which he dedicated to the Venus Genetrix was formed from pearls taken from British waters. We have thus conclusive proof of two things: (1) that Cæsar's main aim was not forgotten in the midst of the warlike and imperial ambitions which in the Romans always mixed with and modified any personal or narrower preference; and (2), that the ancient Britons knew the value of pearls and worked their waters for them, that they traded in them, and that they found their way to distant regions of the earth even at that early period. But pearl-fishing was for a long course of centuries in abeyance in our country.

The revival of the pearl-fishing in Scotland is of comparatively recent date. In 1761 pearls were sent from Scotland to London to the value of £10,000, and these were mainly taken from the Tay and Isla. And year by year the trade languished until an Edinburgh jeweler of enterprise made the generous offer to purchase all that were brought to him. The highest price given for a single pearl has not, so far as we know, exceeded £60. Endeavors have been made to imitate pearls, just as endeavors have been made to manufacture diamonds, but not with much success. Nor is this anything new. The Romans and other early nations of Europe endeavored to unite and file pieces of shell into the form of spherical pearls; but no one of the least skill or judgment was likely to be deceived by them, though as ornaments they no doubt had their claims. In 1680 Jacquin, a rosary-maker of Paris, filled hollow glass beads with the scales of a small river fish (the bleak), putting them through some process of condensation, and since then the world has been at no loss to procure what superficially passes for beads and pearl necklaces.

No city in the world, we read, was ever richer in precious pearls than Rome in the time of the Cæsars. Special mention is made of Lollia Pollena, wife of Caius Caligula. "I have seen her," says Pliny, "so bedecked with emeralds and pearls disposed in rows, ranks, and courses, one by another, round about

the attire of her head, her cowl, her peruke of hair, her band grace and chaplet, hanging at her ears, round her neck as an ornament in a corcanet, upon her wrists as bracelets, and on her fingers in rings, that she glittered and shone like the sun as she went." The habit was so common of using pearls as a base to throw up the brilliance of other gems, that we may, perhaps, believe even in Caligula's slippers of pearls, with rubies and emeralds set upon them like flowers.

The Roman ladies had a special favor for pearls as earrings, and it was one of their consuming ambitions to possess exceptionally fine specimens for this purpose. They preferred the pear-shaped pearls, and often wore two or three of them strung together. They jingled gently as they moved about, fitting accompaniment, it may be said, to their graceful movements, and from this jingling they got their name, which was *crotalia*, or "rattles." And the taste of the Roman ladies for pearls has perpetuated itself, though other of the ancient luxurious habits, which in their case accompanied it, have long died out. The women of Florence even now are not contented if they do not possess a necklet of pearls, and this generally forms the marriage portion of the middle class woman. It is thought, just as it was in ancient Rome, that this gives an air of respectability, and forms a sure protection from insult in the streets or elsewhere.

Pearls are only twice mentioned in the authorized version of the Old Testament, and both times the pearl is used as a symbol of wisdom. Some critics have held that the Hebrew word did not exactly mean pearl, but since there can be no doubt that our Saviour referred to the true pearl when He spoke of the "pearl of great price," we may the more implicitly accept it, and gather from the use of the pearl as a figure by the Jewish writers that a perfect pearl has been rare in all ages, and considered of the greatest value.

As may be presumed, from what we have just said, the Romans classed first among pearls those which were pear-shaped, and gave to them the name of *unio*, or unique, a name now in our scientific terminology attached with fitness, as we have seen, to the species of mollusc from which some of the most perfect pearls are obtained. "To be perfect," says Mr. Emmanuel in his valuable

work on gems, "a pearl must be a of perfectly pure white color; it must be perfectly round or drop shaped; it must be slightly transparent; it must be free from spots or blemish; and it must possess the lustre characteristic of the gem." At the breaking up of the crown treasury of France in 1791, a magnificent large spherical pearl, unbored, was sold for £8,000; and two pear-shaped ones, which each weighed 214 grains, were valued at £12,000. Another famous pearl of history was that sold to Philip the Fourth of Spain in 1625. It is said that the Shah of Persia is the happy possessor of a pearl valued at £60,000—a goodly estate in small compass, light and portable—and the Imam of Muscat one for which he has been offered £30,000. The second division in the Roman classification of pearls was "Margarites," which included pearls of any shape or color, large and misshapen often, but often, too, of exceptional purity and beauty. The jewelers of the Cinque-Cento period, with the fertile ingenuity that distinguished them, gave a new value to these eccentric specimens by mounting them in styles as eccentric. Mermaids and sea-monsters were favorite designs; and some illustrations of this treatment are to be seen in collections in this country, notably in the Devonshire Cabinet.

Unlike most gems, the pearl comes to us fresh, pure, lustrous,



THE DECORATOR AND FURNISHER.

direct from the hand of nature. Other precious stones undergo much careful labor at the hands of the lapidary, and sometimes owe much to his art. Diamond cutting is indeed a branch of art, and cameo carving is a yet higher one. But the pearl owes nothing to man. This perhaps has a good deal to do with the sentiments we cherish toward it. It touches us with the same sense of simplicity and truth as the mountain daisy or the wild rose. It is absolutely a gift of nature's own. When we turn from the brilliant, dazzling coronet of diamonds or emeralds to a necklace of pearls, there is a sense of relief, of soft refreshment. The eye rests on it with quiet, satisfied repose. It seems so truly to typify steady and abiding affection, which needs no accessory or adornment to make it more attractive. But pearls, despite all this, are not free from the fluctuations of fashion and caprice which assail all such commodities. We have seen how for some years the Scottish fisheries have been affected by the craving for rose-colored pearls among the ladies of Paris. And different people in this, as in so many other things, display varying tastes and tendencies. The Chinese prefer those of a yellow tint—a dark gold color, as one describes it. This tint is peculiar to certain classes of Oriental pearls. Those found in Panama, California, and the South Pacific are more or less dark-looking.

Pearls are pre-eminently children of the light. Not only do they reflect it, but, like flowers, they lose their purity and delicacy of color if light is for any lengthened period withdrawn from them. So say they who have had most experience of pearls; and the fact adds a new association and poetic suggestiveness, as it were, affording another very beautiful hint of distinction between them and other gems of purely mineral origin. Those who possess fine pearls had better not forget this, and keep them too long immured in dark and secret corners, however safe. Pearls, we may say, were created to diffuse gentle pleasure, to delight the eye, as they shine simple and translucent. We have all heard of that draught in which it was said that Cleopatra dissolved her famous pearl, and which she drank at that memorable supper. But science gives the lie to the possibility. No acid the human stomach could receive would be sufficient to dissolve a pearl, and even with the acids of the greatest strength the outer coatings are alone discolored or destroyed, and this only after a considerable lapse of time. As has been suggested by a very good authority on gems—Mr. King—it is likely that Cleopatra swallowed the solid gem, or found some other means of eluding the vigilance of Antony and those who were with him. Some cynics would say that woman's wiles were quite equal to that enterprise or deception. References to pearls by great writers, ancient and modern, are very plentiful, as the beauty and purity of the gem would lead one to expect.

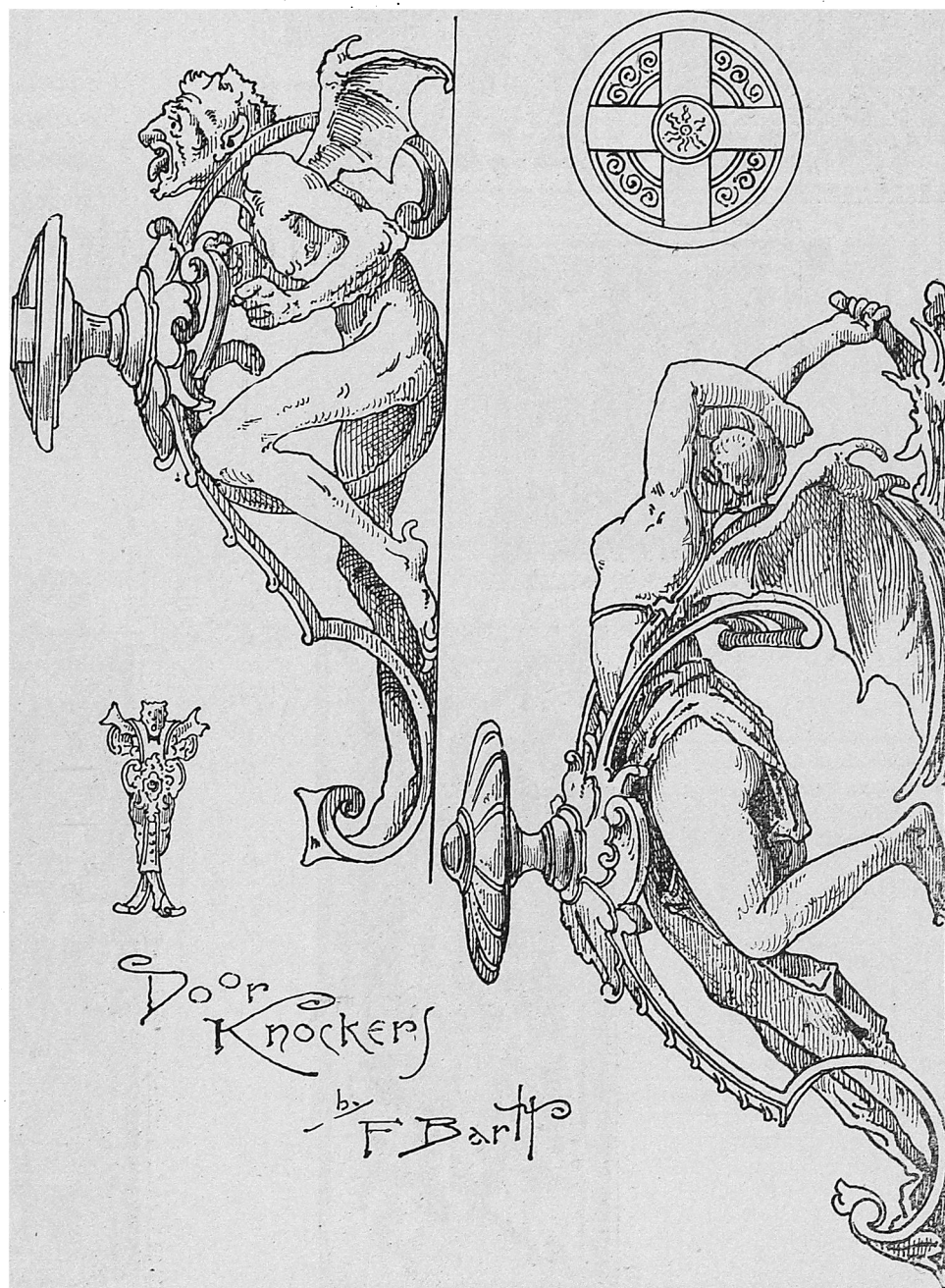
We have referred to some of the expressions of Scripture; and we have seen how Pliny viewed the matter, giving in compact version the very unfounded theory of the Romans as to the origin and growth of the pearl. Now that science has taught us better, literature has only found in it, as is invariably the case, a wider field of illustration and imagery. The very associations inseparably linked with the name Margaret, which is only an adaptation of the Greek for pearl, might themselves be cited here. We think of one named Margaret as pure, guileless, untouched with the *finesse* of society, as unspotted with its vices. Something of this Goethe may have had in mind when he named the heroine of "Faust" Gretchen or Margaret. Wordsworth, too, makes one of the most touching episodes in the "Excursion" to circle round an ill-fated but noble Margaret. Tennyson, in what is, perhaps, the very finest of his elaborate cabinet of female portraits, painted when he was still a young man, has given us "rare, pale Margaret," and this is, perhaps, the finest of them all. Othello, in his last touching speech, speaks of himself as "One, whose hand like the base Indian, threw a pearl away, richer than all his tribe." To him Desdemona was Margaret—a pearl. He could not otherwise have so truly and concisely expressed himself.

The old fable of pearls being generated by contact with rice, and actually revived not long ago, is only a monstrous imposture. Mr. Hugh Owen has thus disposed of it: "The so-called rice is a marine shell of the genus *Cypræa*, the end or apex of each example carefully filed or ground off to represent the effect of having been fed upon by pearls. The whole is a deliberate and barefaced imposture, and it is to be hoped that when, some generations hence, this miserable myth again crops up in the repetitive operations of history, some more powerful pen than

mine may find employment in denouncing the shameless attempt to impose upon the credulity of the scientific world."

Hypocrisy was said by the witty Frenchman to be the tribute vice pays to virtue. Such imitations and impostures are the respects which fraud pays to Nature's unsullied beauty.

To whatever the conventional art mannerism of a people whose especial style of decoration continues unchanged from age to age be applied, it will yet be found capable of supplying serviceable suggestions. The wide range of country scenery, including rivers and streams, mountains, valleys, plains, pasturages, tilled fields and gardens, with the representations of various avocations, such as fishing, hunting, tea culture, etc., in addition to groups of figures festively and otherwise engaged, that a Japanese artist can depict on the silk panel of a screen is something to be wondered at, the view being the more entertaining and enlivening, each object, however remote, being distinct. To effect this, there is little attempt at shading; the objects are mostly flat, and



their relative distance is rather indicated by diminishing size than any attention to the laws of perspective. As to atmospheric effects, there are none, but the whole scene appears steeped in natural light. The whole is beneath criticism, except in the harmony of the colors. Take three such panels in a screen, and they will afford material for hours of idle and pleasant reverie, whether seen by reflected or transmitted light—the survey being without effort. The question that arises is whether it might not be well to introduce screens in some slight modification of this style, that should have nothing Japanese about them, for the sake of the number of suggestive objects that could thus be portrayed in a comparatively limited space, and the consequent scenic variety that would be afforded. The screens we have referred to are essentially decorative.

AMONG upholstered suites for furniture are those with frames covered with pure silver leaf on which beautiful patterns are traced. Embossed silver appears in library furniture,